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ABSTRACT

Twenty college students read passages from John Steinbeck's "Log from the Sea of Cortez," so that the effect of their study strategies on their recall of idea units in the passages could be tested, both immediately after reading and after a one-week delay. The experiment provided a comparison of the effectiveness of two imposed study patterns, a written strategy and a relational strategy, with students' spontaneous study strategies. A control group was told to read the material but was not told to study it. Subjects in the written strategy group were trained to write an outline of the passage as they read, while the subjects in the relational strategy group mentally related information in the passage with something they already knew. The spontaneous group was untrained. Results indicated that the spontaneous strategy group remembered significantly more idea units than the other three groups. These findings suggest three possible explanations: (1) perhaps the mnemonic processes of college students cannot be changed merely by instructing them to adopt a particular strategy; (2) the training of the written and relational strategy groups might not have been long enough or provided enough practice; or (3) interference from the training passages may have occurred. Recall of three importance levels (1 being most important, 2 moderately important, and 3 being least important) was also tested, and across all variables the level 2 idea units were recalled less successfully--a result that is inconsistent with previous research. This suggests that for this type of prose, memorability and importance level are separate characteristics. (References and figures are appended.) (SKC)

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EFFECTS OF SPONTANEOUS AND IMPOSED STUDY STRATEGIES ON RECALL OF PROSE

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The purpose of this investigation was to determine whether the type of study strategy that college students use while studying a prose passage has an effect on their recall of idea units in the passage immediately after the study period and after a one-week delay. The experiment provided a comparison of the effectiveness of two imposed study strategies, a written strategy and a relational strategy previously identified by a factor analysis by Kulhavy and Kardash (1984), against the effectiveness of students' spontaneous study strategies. Also included in the experiment was a control group that was told to read the material, but was not told to study it; these subjects presumably did not use any type of study strategy. In addition to the independent variables of type of study strategy and test occasion (immediate and delayed), a third independent variable was the level of importance of the idea units (1 = most important, 2 = moderately important, 3 = least important) recalled on a test over the passage studied. The dependent variable was the number of idea units of each level of importance that the subjects included on a free-recall test.

Method

Twenty college students comprised each experimental group. Subjects in the written and relational strategy groups received 50 minutes of training in the study strategy they were to use. Subjects in the written strategy group were trained to write an outline of the main ideas or to make a list of important points. Subjects in the relational strategy group were trained to mentally relate information in the passage with something they already knew or with other information in the passage. The prose passages for the training and experimental sessions were taken from John Steinbeck's Log from the Sea of Cortez (1951). A separate group of college students previously had divided the target passage into idea units and rated them according to their level of importance. Subjects in the spontaneous and control groups did not receive any training; these subjects read material of their own choosing during the first session of the study.

During the experimental session, subjects in the written and relational strategy groups were instructed to study the target passage for a test using the strategy they had been trained to use. Subjects in the spontaneous group were instructed simply to study the passage for a test, and subjects in the control group were instructed to read the passage and were not told that they would be given a test. Subjects were given 15 minutes to read/study the target passage and were then given a free recall test. Protocols were scored for the number of idea units at each level of importance.

Results

We performed a 4x3x2 analysis of variance with study strategy, importance level, and test occasion as main effects. All analyses were conducted at the alpha = .05 level. As shown in figures 1, 2, and 3, all three of the main effects were significant: for study strategy, F (3,76) = 3.68; for importance level, F (2, 152) = 35.30; for test occasion, F (1, 76) = 171.01. Newman-Keuls tests showed that for the study strategy effect, the spontaneous strategy group remembered significantly more idea units than the other three groups. There were no differences among written strategy, relational strategy, and control groups. For the importance level effect, more idea units of level 1 and level 3 were remembered than idea units of level 2, and there was no difference between levels 1 and 3. For the test occasion effect, there were more idea units remembered on the immediate recall test than on the delayed recall test.

As shown in figure 4, the interaction of importance level and test occasion was also significant: F (2, 152) = 4.13. A test of simple effects on the means contributing to this interaction revealed a significant effect for importance level on both the immediate test, F (2, 275) = 36.10, and the delayed test, F (2, 275) = 13.47. These results show that more level 1 and level 3 idea units were recalled than level 2 idea units on both the immediate and delayed tests, but there was less reduction in recall from immediate to delayed testing for level 2 idea units than for levels 1 and 3 idea units. None of the other two-way interactions, nor the three-way interaction, were significant.

Discussion

We can hypothesize three possible explanations for the superior performance of the spontaneous strategy group. First, it may be that the mnemonic processes of college students cannot be changed by merely instructing them to adopt a particular strategy. This view is in agreement with studies that have shown that mnemonic processes solidify as a function of maturation (Anderson & Kulhavy, 1972; Kulhavy & Swenson, 1975). It is possible that imposing a study strategy on college-age students may actually hinder their performance. Second, the training given to the written and relational strategy groups may not have been long enough or provided enough practice to be effective. Third, it is possible that interference can explain the lower recall scores of the written and relational strategy groups. Interference may have occurred because subjects in these two groups read passages during the training and experimental sessions that were very similar, while subjects in the spontaneous and control groups read material during the training session that was unrelated to the passage they read during the experimental session.

Our finding that subjects recalled more of both

importance level 1 and importance level 3 idea units than importance level 2 idea units is contrary to Johnson's (1970) results in which recall of idea units increased as a function of importance level. This finding may be due to factors inherent in the prose passages used. It may be that for some types of prose, memorability and importance level are separate characteristics. When designing instructional materials, therefore, it appears important to consider the memorability of ideas as well as their importance to the overall content.

References

Anderson, R. C., & Kulhavy, R. W. (1972). Imagery and prose learning. Journal of Educational Psychology, 63, 242-243.

Johnson, R. E. (1970). Recall of prose as a function of the structural importance of the linguistic units. Journal of Verbal Learning and Verbal Behavior, 9, 12-20.

Kulhavy, R. W., & Kardash, C. A. (1984, August). Studying study: An analysis of instructional encoding behavior. Paper presented at the annual meeting of the American Psychological Association, Los Angeles, CA.

Kulhavy, R. W., & Swenson, I. (1975). Imagery instructions and the comprehension of text. British Journal of Educational Psychology, 45, 47-51.

Steinbeck, J. (1951). The log from the Sea of Cortez. New York: The Viking Press.

Figures

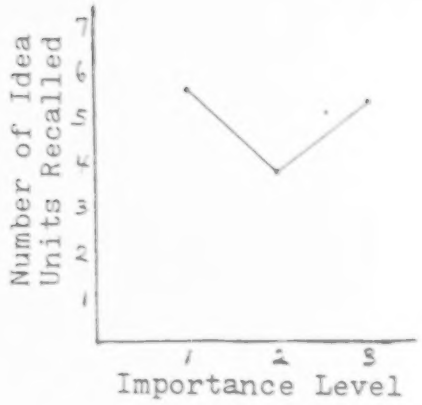

Figure 1: Number of idea units recalled, across study strategies and test occasions, as a function of importance level of idea unit.

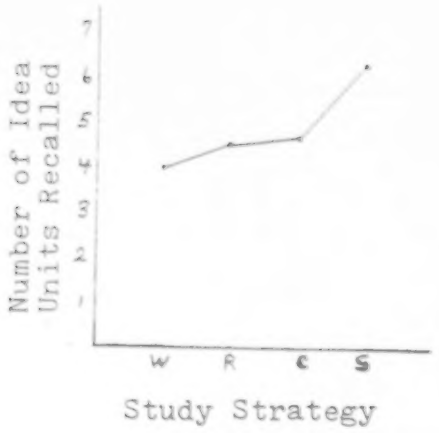

Figure 2: Number of idea units recalled, across test occasions and importance levels of idea units, as a function of study strategy.

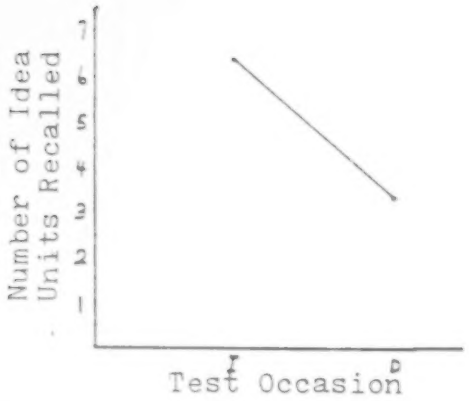

Figure 3: Number of idea units recalled, across study strategies and importance levels of idea units, as a function of test occasion.

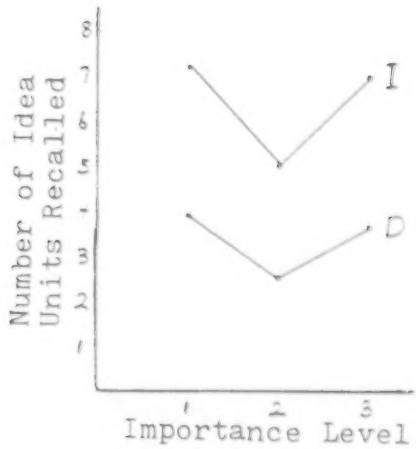

Figure 4: Number of idea units recalled, across study strategies, as a function of test occasion and importance level of idea unit.

For all figures: W = Written, R = Relational, S = Spontaneous, C = Control, I = Immediate, D = Delayed.

N for each study strategy group = 20.